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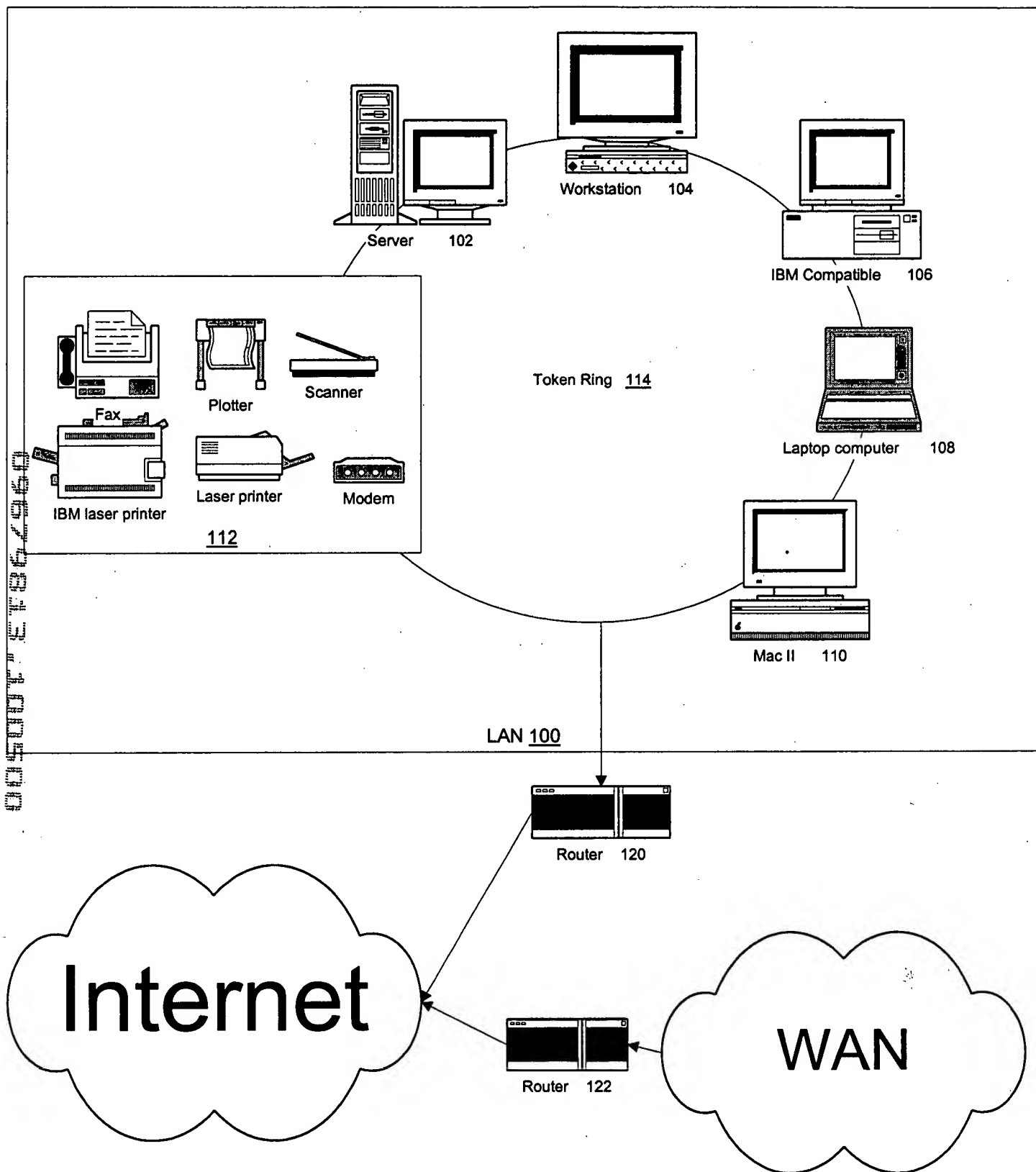


Fig. 1

09679813-100500

|   |
|---|
| Application Layer / Layer 5<br><u>202</u>       |
| Transport Layer / Layer 4<br><u>204</u>         |
| Internet Layer / Layer 3<br><u>206</u>          |
| Network Interface Layer / Layer 2<br><u>208</u> |
| Physical Layer / Layer 1<br><u>210</u>          |

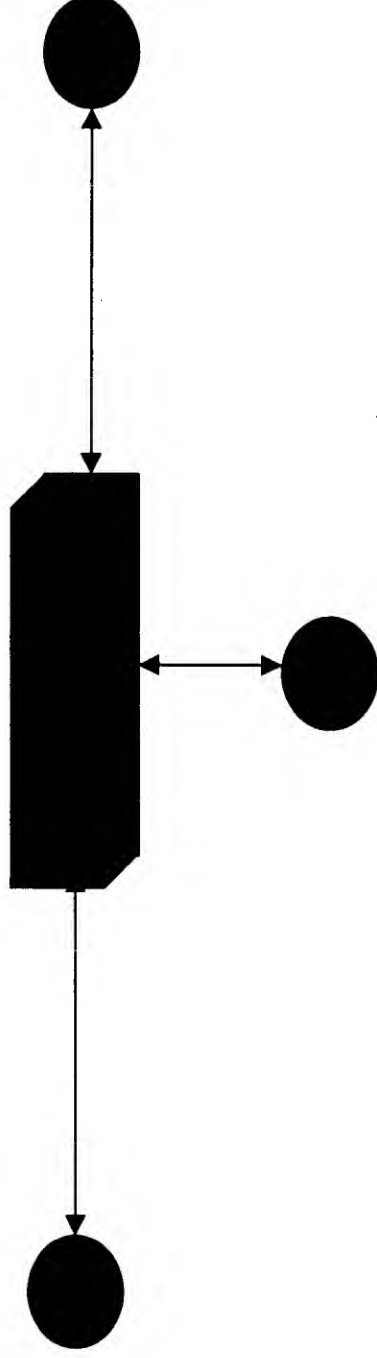
## TCP/IP Layering Model

Fig. 2

**Figure 3**

System 300

Independent Host Site



**Figure 4**

System 400

Enterprise Trading Network

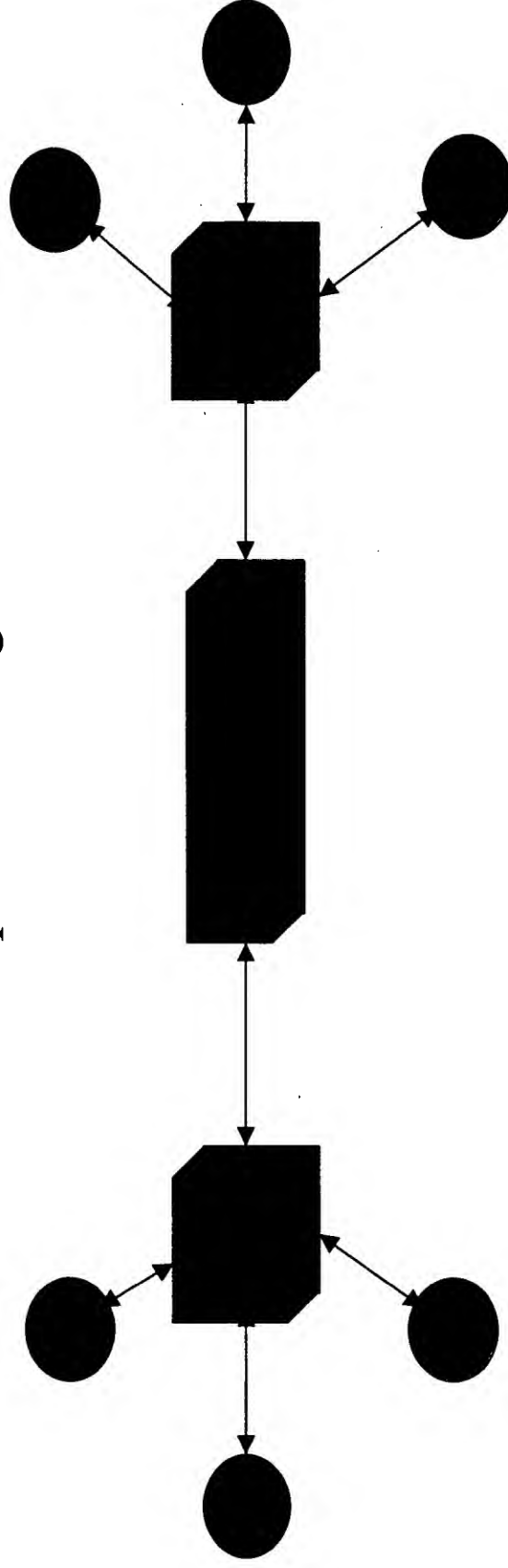
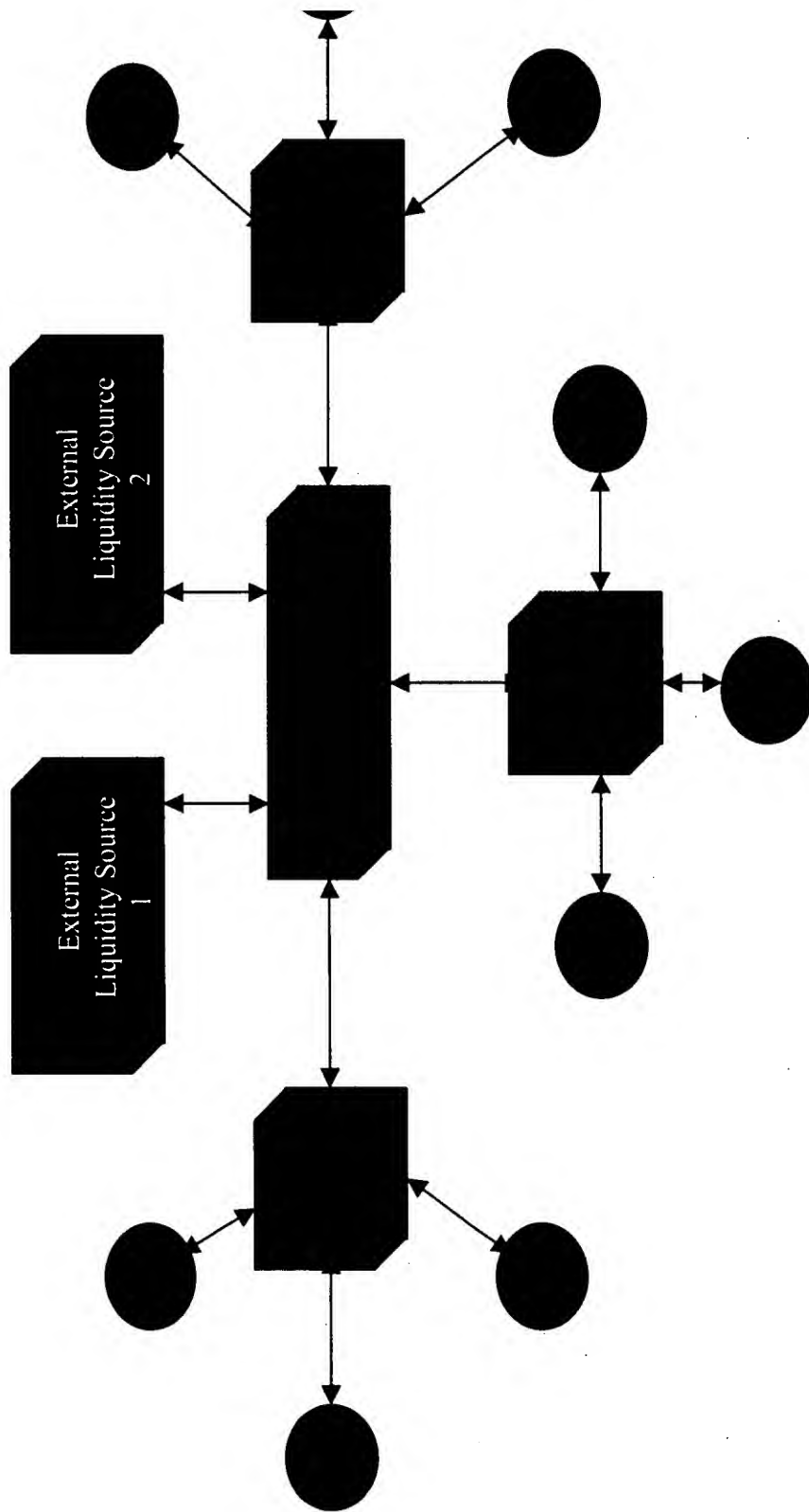


Figure 5

# Global Trading Network



**Figure 6**

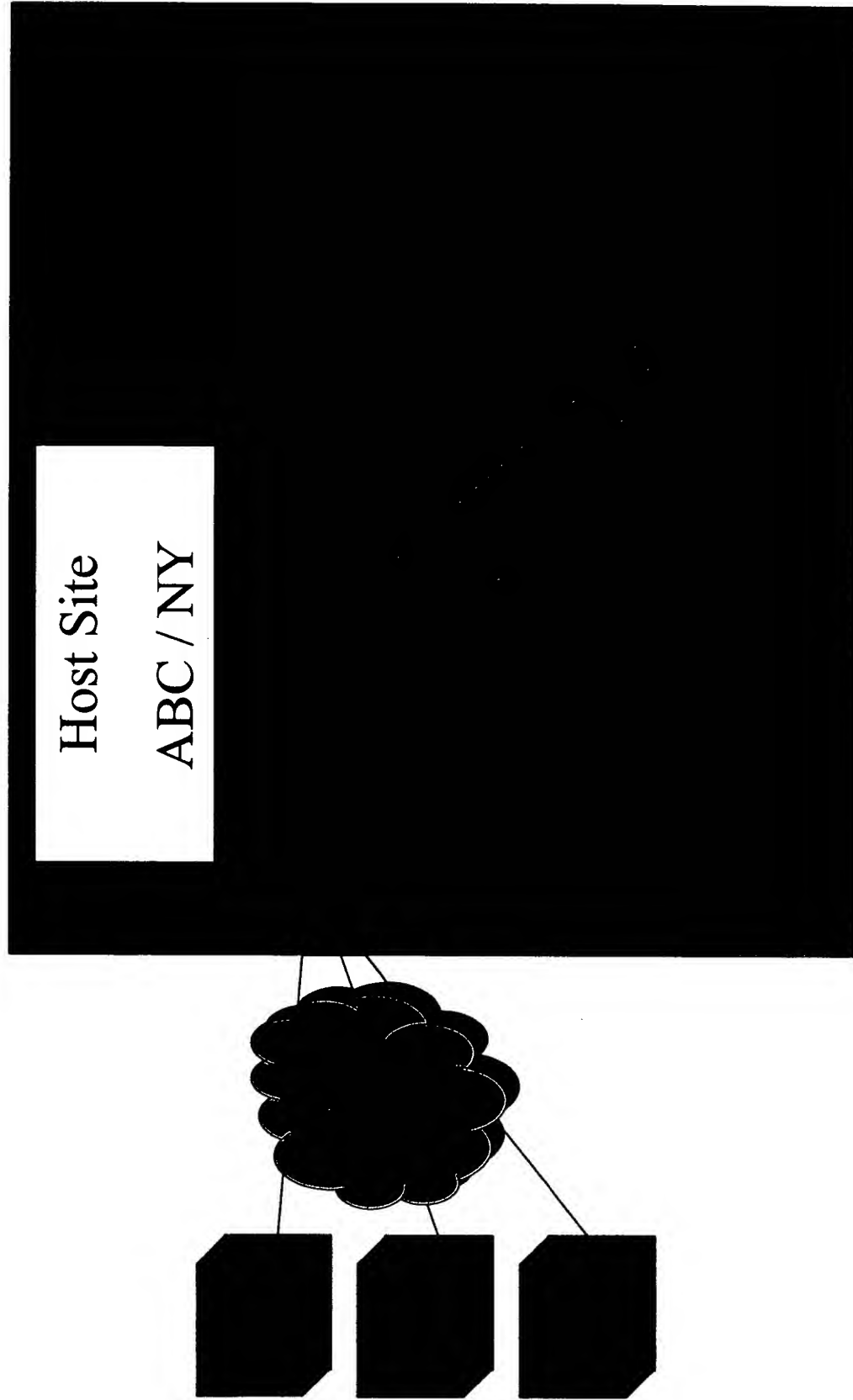


Figure 7

## Market Definitions

|                    |   |      |     |                 |            |  |
|--------------------|---|------|-----|-----------------|------------|--|
|                    |   |      |     |                 |            |  |
| A) EUR/USD Spot FX | 1 | BUY  | EUR | Spot Date (T+2) | 1          |  |
|                    | 2 | SELL | USD | Spot Date (T+2) | Trade pric |  |
|                    |   |      |     |                 |            |  |
| B) USD/JPY Spot FX | 1 | BUY  | USD | Spot Date (T+2) | 1          |  |
|                    | 2 | SELL | JPY | Spot Date (T+2) | Trade pric |  |
|                    |   |      |     |                 |            |  |
| C) EUR/JPY Spot FX | 1 | BUY  | EUR | Spot Date (T+2) | 1          |  |
|                    | 2 | SELL | JPY | Spot Date (T+2) | Trade pric |  |



**Figure 8**  
**Initial Orders**

|                           |          |            |             |                  |               |
|---------------------------|----------|------------|-------------|------------------|---------------|
| <b>A) EUR/USD Spot FX</b> | <b>1</b> | <b>101</b> | <b>BUY</b>  | <b>1,000,000</b> | <b>1.0235</b> |
|                           | <b>2</b> | <b>102</b> | <b>SELL</b> | <b>1,000,000</b> | <b>1.0245</b> |
|                           |          |            |             |                  |               |
| <b>B) USD/JPY Spot FX</b> | <b>3</b> | <b>103</b> | <b>BUY</b>  | <b>3,000,000</b> | <b>103.15</b> |
|                           | <b>4</b> | <b>104</b> | <b>SELL</b> | <b>7,000,000</b> | <b>103.25</b> |
|                           |          |            |             |                  |               |
| <b>C) EUR/JPY Spot FX</b> | <b>5</b> | <b>105</b> | <b>BUY</b>  | <b>1,000,000</b> | <b>105.40</b> |
|                           | <b>6</b> | <b>106</b> | <b>SELL</b> | <b>2,000,000</b> | <b>105.50</b> |

Figure 9

State Of Markets Following Placement Of Initial Orders

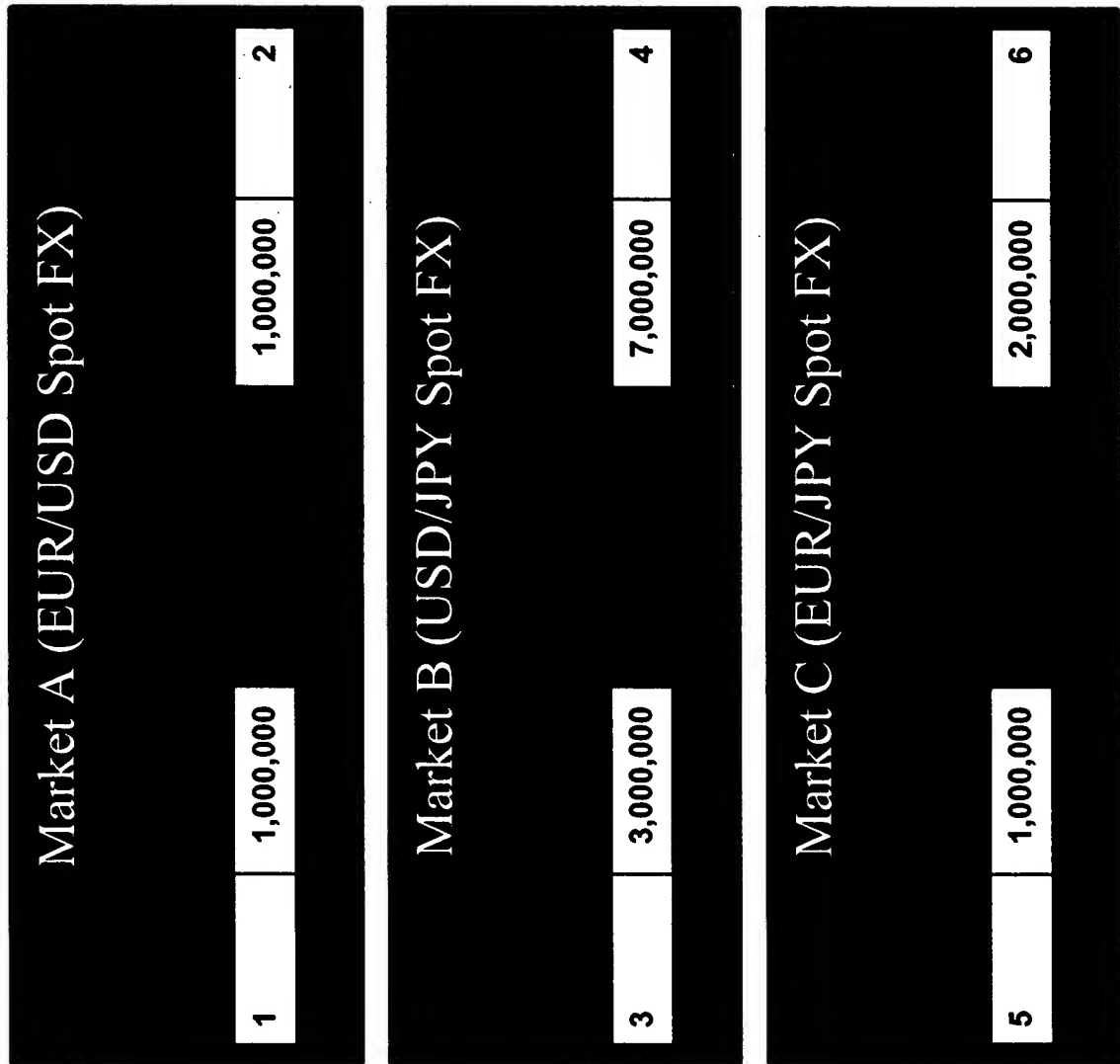


Figure 10

## FX Arbitrage Strategy

Required ROI: 1/10 % (44% annualized)  
 Profit Location: USD Spot

|   |               |      |        |           |  |            |           |
|---|---------------|------|--------|-----------|--|------------|-----------|
| 1 | A)<br>EUR/USD | Sell | 1.0235 | 1,000,000 | (C.BestPrice / B.BestPrice) x<br>1.001 | 1.02380514 | 2,000,000 |
|   |               |      |        |           |  |            |           |
| 2 | B)<br>USD/JPY | Sell | 103.15 | 3,000,000 | (C.BestPrice / A.BestPrice) x<br>1.001 | 103.180752 | 1,022,386 |
|   |               |      |        |           |  |            |           |
| 3 | C)<br>EUR/JPY | Buy  | 105.50 | 2,000,000 | (A.BestPrice x B.BestPrice) /<br>1.001 | 105.468556 | 1,000,000 |

# Figure 11

Market A Calculated Order Amount

EUR Spot

|    |           |           |    |
|----|-----------|-----------|----|
| C1 | 2,000,000 | 2,000,000 | A1 |
|----|-----------|-----------|----|

USD Spot

|    |           |               |    |
|----|-----------|---------------|----|
| A2 | 2,047,800 | 2,045,564.712 | B1 |
|----|-----------|---------------|----|

JPY Spot

|    |             |             |    |
|----|-------------|-------------|----|
| B2 | 211,000,000 | 211,000,000 | C2 |
|----|-------------|-------------|----|

# Figure 12

Market B Calculated Order Amount

EUR Spot

|    |           |           |    |
|----|-----------|-----------|----|
| C1 | 1,000,000 | 1,000,000 | A1 |
|----|-----------|-----------|----|

USD Spot

|    |           |              |    |
|----|-----------|--------------|----|
| A2 | 1,023,500 | 1,022,385.89 | B1 |
|----|-----------|--------------|----|

JPY Spot

|    |             |             |    |
|----|-------------|-------------|----|
| B2 | 105,500,000 | 105,500,000 | C2 |
|----|-------------|-------------|----|

# Figure 13

Market C Calculated Order Amount

EUR Spot

|    |           |           |    |
|----|-----------|-----------|----|
| C1 | 1,000,000 | 1,000,000 | A1 |
|----|-----------|-----------|----|

USD Spot

|    |           |               |    |
|----|-----------|---------------|----|
| A2 | 1,023,500 | 1,022,394.571 | B1 |
|----|-----------|---------------|----|

JPY Spot

|    |             |             |    |
|----|-------------|-------------|----|
| B2 | 105,460,000 | 105,460,000 | C2 |
|----|-------------|-------------|----|

Figure 14

Orders Generated By FX Arbitrage Strategy

|                    |   |     |      |           |        |
|--------------------|---|-----|------|-----------|--------|
| A) EUR/USD Spot FX | 7 | 107 | SELL | 2,000,000 | 1.0239 |
|                    |   |     |      |           |        |
| B) USD/JPY Spot FX | 8 | 107 | SELL | 1,022,386 | 103.19 |
|                    |   |     |      |           |        |
| C) EUR/JPY Spot FX | 9 | 107 | BUY  | 1,000,000 | 105.36 |

Figure 15  
State Of Markets Following Activation Of FX Arbitrage Strategy

| Market A (EUR/USD Spot FX) |           |        |           |   |
|----------------------------|-----------|--------|-----------|---|
| 1                          | 1,000,000 |        | 2,000,000 | 7 |
|                            |           | 1.0245 | 1,000,000 | 2 |

| Market B (USD/JPY Spot FX) |           |        |           |   |
|----------------------------|-----------|--------|-----------|---|
| 3                          | 3,000,000 |        | 1,022,386 | 8 |
|                            |           | 103.25 | 7,000,000 | 4 |

| Market C (EUR/JPY Spot FX) |           |        |           |   |
|----------------------------|-----------|--------|-----------|---|
| 9                          | 1,000,000 |        | 2,000,000 | 6 |
| 5                          | 1,000,000 | 105.40 |           |   |



Figure 16  
New Order Which Triggers Execution Of  
FX Arbitrage Strategy

|                    |    |     |     |           |
|--------------------|----|-----|-----|-----------|
|                    |    |     |     |           |
| A) EUR/USD Spot FX | 10 | 110 | BUY | 2,000,000 |
|                    |    |     |     | 1.0239    |

Figure 17  
 Trades Generated By Execution Of  
 FX Arbitrage Strategy

| A) EUR/USD Spot FX | 1 | 10 | 110 | 7 | 107 | 2,000,000 | 1.0239 |  |  |
|--------------------|---|----|-----|---|-----|-----------|--------|--|--|
|                    |   |    |     |   |     |           |        |  |  |
| B) USD/JPY Spot FX | 2 | 3  | 103 | 8 | 107 | 2,045,564 | 103.15 |  |  |
|                    |   |    |     |   |     |           |        |  |  |
| C) EUR/JPY Spot FX | 3 | 3  | 107 | 6 | 106 | 2,000,000 | 105.50 |  |  |